Attorney Docket No. 26574U

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
MESCHKE, Frank
International Application No. PCT/EP2003/008177
Serial No. NOT YET ASSIGNED
International Filing Date: 24 July 2003 (24.07.2003)
Filed: January___, 2005
For: **MATERIAL COMPRISING A SURFACE CONSISTING OF A METAL CARBIDE-CARBON COMPOSITE AND A METHOD FOR PRODUCING THE SAME**

ARTICLE 34 AMENDMENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith are Article 34 amendments submitted to the European Patent Office in the captioned application.

Respectfully submitted,
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Patent Claims

1. A material having a surface formed from a metal carbide/carbon composite, characterized in that a metal carbide surface contains carbon which is cohesively bonded in geometrically defined regions down to a depth of from 0.01 to 1000 µm.

2. The material as claimed in claim 1, characterized in that the metal carbide is SiC.

3. The material as claimed in claim 2, characterized in that the SiC is an SiC sintered body or reaction-bonded silicon carbide or an SiC covering layer on any desired substrate.

4. The material as claimed in one of claims 1 to 3, characterized in that from 0.1 - 99, preferably from 5 - 95, particularly preferably from 15 - 90, and especially preferably from 25 - 80 percent of the surface area consists of carbon.

5. The material as claimed in one of claims 1 to 4, characterized in that the carbon is amorphous carbon, crystalline carbon, graphite, diamond or a mixture thereof.

6. The material as claimed in one of claims 1 to 5, characterized in that the thickness of the carbon layer is 0.01 - 50 µm.

7. A process for producing a shaped body, characterized in that a material with a metal carbide surface is heated in a defined region of its surface, in the presence of a reaction gas, a shielding gas or in a vacuum, by means of a radiation source, in such a manner that in this region the metal carbide is locally

converted into carbon.

8. The process as claimed in claim 7, characterized in that the metal carbide is locally irradiated with the aid of a radiation source and in the process is heated to 600-1500°C, and at the same time the metal carbide surface is exposed to a reaction gas, the reaction gas being such that in the predetermined temperature range it is able to dissolve the metal of the metal carbide and leave behind carbon.

9. The material as claimed in claim 8, characterized in that the reaction gas used is a carrier gas mixed with a halogen.

10. The process as claimed in claim 9, characterized in that the halogen used is chlorine and the carrier gas used is argon.

11. The process as claimed in claim 7, characterized in that the surface which is irradiated with a radiation source is locally heated to more than 1500°C and less than 2200°C and is exposed to a vacuum or shielding gas, with metal carbide decomposing into metal and carbon without the involvement of foreign elements.

12. The process as claimed in one of claims 7 to 11, characterized in that the radiation source used is a laser, a microwave or an electron beam.